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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,138	01/25/2002	Edgar R. Zuniga-Ortiz	TI-33986	1847

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EXAMINER

THAI, LUAN C

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 07/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	10/057,138	ZUNIGA-ORTIZ ET AL.	
	Examin r	Art Unit	
	Luan Thai	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 3,10-14,16-21 and 24-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,15,22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Election/Restrictions

1. Applicant's election *with traverse* of Embodiment I (Figures 2-3) to which claims 1, 2, 4-9, 15, 22 and 23 are directed is acknowledged. The traversal is on the ground(s) that claim 1 is generic to claims 2-31. After further review, the Examiner agrees with the Applicant that claim 1 is generic to claim 2-31.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4-9, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (6,426,281).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 4-9, and 15, Lin et al disclose (see specifically figure 16) a semiconductor device comprising a semiconductor chip (30) having a planar active surface including an integrated circuit protected by an inorganic overcoat (34) (e.g., a passivation layer of polyimide), the circuit having a plurality of aluminum contact pads (32), each of contact pads (32) having an added conductive layers (36/46/48/50), which consists of a conductive diffusion barrier (36) of chromium and a bondable planar outer

surface layer (50), wherein the claimed of “the inorganic overcoat being moisture impermeable and stiff” is taken to be inherent in Lin et al device since that is the characteristic of a passivation layer which is disclosed in Lin et al device. Lin et al do not explicitly teach that the flat outer surface of layer 50 is “suitable to form metallurgical bonds without melting”. It would have been obvious for the flat outer surface of layer (50) in Lin et al’s device to be suitable to form metallurgical bonds without melting because the structure of the added conductive layers (36/46/48/50) in Lin et al’s device and that of the claimed structure are similar.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (6,426,281) in view of Kleffner et al (5,943,597).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claim 2, the proposed device of Lin et al discloses all the limitations of the claimed invention as detailed above except for a non-conductive layer over the overcoat.

Kleffner et al while related to a similar device design teach (see specifically figure 2) a second passivation layer (16) of polyimide is over coated the first passivation layer (14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Kleffner et al’s teachings to Lin et al’s device by forming a second passivation layer on the inorganic overcoat layer (34) in order to enhance the protection on the active surface of the semiconductor chip.

Art Unit: 2827

5. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al. (6,426,281) in view of Elenius et al (6,287,893).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 22-23, the proposed device of Lin et al discloses all the limitations of the claimed invention as detailed above except for another protective layer formed on the chip surface opposite the active surface.

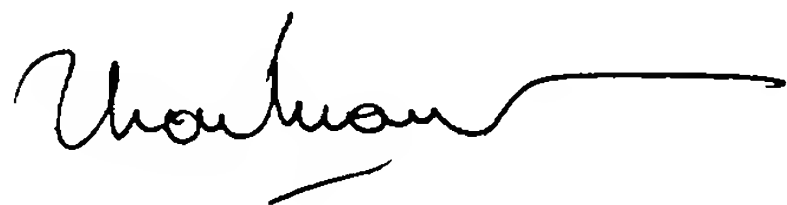
Elenius et al while related to a similar semiconductor structure design teach a second polyimide layer (34) is formed on the chip surface opposite the active surface in order to protect the backside of the chip. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Elenius et al's teachings to Lin et al device by forming a second protective layer on the backside surface of the chip in order to protect the backside of the chip.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is (703) 308-1211. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Art Unit: 2827

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Luan Thai', followed by a long horizontal flourish.

Luan Thai

July 12, 2003